

WHAT IS CLAIMED IS:

- 1                   1.       A duct assembly for use with a motor vehicle having a  
2 mounting surface, the duct assembly comprising:  
3                    an air duct mountable on the mounting surface, the air duct having  
4 an inlet opening for receiving pressurized air and a duct portion for channeling  
5 pressurized air;  
6                    a first seal disposed on the air duct proximate the inlet opening for  
7 inhibiting air leakage at the inlet opening; and  
8                    a second seal disposed on the air duct proximate the duct portion for  
9 inhibiting air leakage from the duct portion, the second seal being configured to be  
10 disposed between the air duct and the mounting surface when the duct assembly is  
11 mounted on the mounting surface;  
12                   wherein the first and second seals are integrally connected and  
13 simultaneously formed from a common material.
- 1                   2.       The duct assembly of claim 1 wherein the air duct further has  
2 an outlet opening that receives pressurized air from the duct portion.
- 1                   3.       The duct assembly of claim 2 further comprising a third seal  
2 disposed on the air duct proximate the outlet opening for inhibiting air leakage from  
3 the outlet opening, the third seal being integrally connected to and formed with the  
4 first and second seals.
- 1                   4.       The duct assembly of claim 3 wherein the second and third  
2 seals have a similar configuration and are connected by the first seal.
- 1                   5.       The duct assembly of claim 1 wherein the first seal is thicker  
2 than the second seal.

1                   6.       The duct assembly of claim 1 wherein the air duct further has  
2 a mating surface configured to engage the mounting surface, the second seal being  
3 disposed on the mating surface.

1                   7.       The duct assembly of claim 6 wherein the mating surface  
2 further has a groove adapted to receive the second seal.

1                   8.       The duct assembly of claim 6 wherein the first seal is disposed  
2 on the mating surface.

1                   9.       A duct assembly for a door of a vehicle, the duct assembly  
2 comprising:  
3                   an interior trim panel having inlet and outlet apertures and first and  
4 second surfaces, the first surface configured to face toward an interior of the vehicle  
5 and the second surface disposed opposite the first surface;  
6                   an air duct attached to the second surface and configured to channel  
7 pressurized air between the inlet and outlet apertures; and  
8                   a set of interconnected seals disposed on the air duct for inhibiting air  
9 leakage between the air duct and the interior trim panel;  
10                  wherein the set of interconnected seals are integrally formed from a  
11 common material.

1                   10.      The duct assembly of claim 9 wherein the set of  
2 interconnected seals comprises a strip seal and an inlet seal, the inlet seal configured  
3 to extend through the inlet aperture and seal against a source of pressurized air when  
4 the door is in a closed position.

1                   11.      The duct assembly of claim 10 wherein the air duct further  
2 comprises an inlet opening, the inlet seal extending through the inlet opening to  
3 secure the inlet seal to the air duct.

1                   12.      The duct assembly of claim 10 wherein the set of  
2 interconnected seals further comprises an outlet seal, the outlet seal configured to

3 extend through the outlet aperture of the interior trim panel and adapted to engage  
4 a second air duct when the door is in the closed position.

1 13. The duct assembly of claim 12 wherein the outlet seal extends  
2 through an outlet opening to secure the outlet seal to the air duct.

1 14. The duct assembly of claim 10 wherein the strip seal is located  
2 between an inner edge of the air duct and an outer edge of the air duct.

1 15. The duct assembly of claim 14 wherein the air duct is attached  
2 to the second surface of the interior trim panel along a portion of air duct located  
3 between the strip seal and the outer edge.

1 16. A duct assembly for a vehicle, the duct assembly comprising:  
2 a trim panel including:

3 a first surface configured to face toward an interior of the  
4 vehicle;

5 a second surface disposed opposite the first surface;

6 an inlet aperture extending through the first and second  
7 surfaces; and

8 an outlet aperture extending through the first and second  
9 surfaces; and

10 an air duct including:

11 a duct portion configured to channel pressurized air between  
12 the inlet and outlet apertures;

13 a mating surface disposed adjacent to the duct portion, the  
14 mating surface including an inlet opening; and

15 a seal having a strip seal portion disposed on the mating  
16 surface for inhibiting air leakage between the duct portion and the trim panel and an  
17 inlet seal portion extending co-axially with the inlet aperture;

18 wherein the first surface and the air duct cooperate to define a passage  
19 for channeling air.

1                    17.     The duct assembly of claim 16 wherein the inlet and outlet  
2     apertures are in different planes.

1                    18.     The duct assembly of claim 16 wherein the air duct further  
2     comprises an outlet opening and the seal further comprises an outlet seal portion  
3     extending co-axially with the outlet opening.

1                    19.     The duct assembly of claim 16 wherein an outer portion of the  
2     inlet seal extending from the mating surface is thicker than an inner portion of the  
3     inlet seal extending opposite the mating surface.

1                    20.     The duct assembly of claim 16 wherein the strip seal portion  
2     is disposed in a groove in the mating surface.